

CONE PENETRATION TESTING (CPTU)

A cone penetration test with pore water pressure measurement, or CPTU, is a static penetration test with water pressure measurement.

The main purpose of CPT (CPTU) testing is to identify subsurface conditions: classify soil, detect layers and measure strength, determine deformation characteristics and the permeability of foundation soils. This is done mainly on the basis of empirical correlations, and also partly on the basis of theoretical outlines.



Double-Cylinder Portable Hydraulic Static Penetrator

Automatic Data Acquisition Instrument With CPTU Triple Bridge Probe

Technical Parameter

ENGINE	Single-cylinder 195 diesel engine, horizontal. four-stroke, water-cooled Rated power-speed: 10.6KW-2200r/min
PENETRATION DEVICE	Double piston hydraulic cylinder, Stroke 550mm, Rated penetration force 100KN, Rated pull-out force 130KN, Adjustable penetration test speed 20 mm/s, Can rise quickly
MACHINE WEIGHT	310 kg (excluding accessories)
ANCHOR FORM	hydraulic anchor
MAXIMUM ALLOWABLE AMBIENT TEMPERATURE FOR WORKING	45C
SUPPORTING PROBES	10cm ² single and double bridge static probes, electric cross board probes, CPTU probes, multi- function digital probes, etc. (all European and international manufacturers can be matched)
MEASURING INSTRUMENT	Static detection data automatic acquisition instrument (all European and international manufacturers can be matched)
TYPE OF CARD PROBE ROD	Mechanical probe rod automatic holder or pad plug-in dual-use
HANDLING FORM	Special trolley
GROUND ANCHOR FORM	Single-leaf or multi-leaf anchor anchor diameter (mm): 300-400
MINIMUM AMBIENT TEMPERATURE	-25C
Probe Specifications (mm)	Integral high-strength non-joint probe rod $\phi 32 \sim \phi 42$ (Optional)

TMR Double-Cylinder Portable Hydraulic Static Penetrator

TMR double-cylinder portable hydraulic static penetration sounder is a set of very economical CPT testing equipment. The independent hydraulic power unit and hydraulic cylinder device are flexibly connected with high-pressure hoses and hydraulic quick connectors.

It can enter very narrow places or places that cannot be reached by large mechanical equipment for surveying. It can also be easily installed on a wide range of new or existing platforms, such as; transport vehicles, tracked chassis, trailers, barges, etc.

CPTU TRIPLE BRIDGE PROBE

The piezoelectric cone used for electronic static in-situ testing is now available. The latest generation can achieve a tip resistance (Q_c) of 50 or 70 MPa.

This is the result of countless tests, performing on different ranges of soil. The conclusion drawn through our team's careful design, manufacturing, and repeated experimentation.



SPECIFICATION

Sensor	Maximum range	Resolving power	Accuracy
QC	50 - 70 MPa	24 bit	0.01 MPa
FS	800 kPa	24 bit	0.01 kPa
U	5000kPa	24 bit	0.01 kPa

AUTOMATIC DATA ACQUISITION INSTRUMENT

This machine has two versions, Chinese and English. It adopts a full metal shell to resist interference, uses a cortex-A dual-core processor, 64M memory, 16MFLASH memory, and an external 32G memory card, a 7-inch display screen, a friendly interface, and easy operation.

SPECIFICATION

- The display screen is a TFT color LCD screen with a resolution of 1024x600, and the window area is 155x85mm².
- Three differential input channels, each channel has a measurement range of -40mV~+40mV.
- 24-bit ADC, A/D conversion resolution: $\pm 1/1000000$.
- Instrument measurement system linear error: $\leq \pm 0.03\%$.
- Sampling time: 50ms.
- Depth sampling interval: 10cm.
- Time sampling interval: 1s~2s.
- External probe specifications: single-bridge and double-bridge static penetration probes of various cross-sectional areas, pore pressure static penetration probes, and various specifications of cross-plate probes.
- Maximum recording depth of a single hole: 150.0m.
- Data storage capacity: up to 800 hole data can be stored.
- Drawing specifications: A4.
- Instrument battery: lithium-ion battery 8.4V, capacity greater than 8000mA.
- Power adapter: input AC 220V 50hz, output DC 12V2A.
- GPS and WIFI are optional.
- Supports a variety of exploration software formats, and can be directly exported to a USB flash drive.
- Power consumption of the whole machine: <5W.
- Working temperature range: 0 ~40 °C.
- Instrument volume: 242x163x68mm³.
- Instrument weight: 2.35kg.



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